

**Louisiana's Water Quality Assessment Method and
Integrated Report Rationale
2010 Water Quality Integrated Report**

Introduction

This summary of Louisiana's water quality assessment methods and Integrated Report (IR) development procedures is taken from the IR Rationale submitted to USEPA in support of Louisiana's 2010 IR. The IR is developed in order to meet reporting requirements of the Federal Water Pollution Control Act (33 U.S.C. §1313 and 40 CFR Chapter 1 §130.7), commonly known as the Clean Water Act (CWA) (Federal Water Pollution Control Act (FWPCA) 1987). Specifically, assessment results for this IR satisfy requirements of §303(d) and §305(b) of the CWA. Reports under §303(d) and §305(b) must be prepared every even-numbered year. Following current United States Environmental Protection Agency (USEPA) guidance, these two reports are now combined into one Integrated Report (USEPA 2002; USEPA 2005; USEPA 2006). This rationale includes descriptions of changes made to Louisiana's IR procedures since the 2008 cycle, along with the reasoning behind those changes.

Changes to the IR for 2010 are based on new ambient water quality data collected from 1 January 2006 through 30 September 2009. In early 2006, all ambient data collected following Hurricanes Katrina and Rita suspected of being impacted by post-hurricane conditions was "flagged" in the database with the codes "HK" or "HR," respectively. Initial 2010 IR assessments were run including this flagged data. If an IR impairment occurred, then the data and assessment were reviewed to determine if the flagged data had a significant effect on the assessment (i.e., extreme outliers from the normal historical range). If it was determined that the hurricane impacted data caused the impairment, then these data points were removed and the assessments were rerun. This affected a limited number of sites monitored at the beginning of the 2006 ambient monitoring cycle. After it was determined that these sites were no longer impacted by post-hurricane conditions, data flagging was discontinued and the data were once again considered acceptable for assessment purposes. Following Hurricane Gustav, which made landfall in September 2008, no ambient monitoring samples were collected at any site until after regional staff determined the water bodies had returned to pre-hurricane condition.

Section 303(d) of the CWA requires the identification, listing, and ranking for development of Total Maximum Daily Loads (TMDLs) waters that do not meet applicable water quality standards after implementation of technology-based controls. Section 305(b) of the CWA requires, among other items, a description of all navigable waters in each state and the extent to which these waters provide for the protection and propagation of fish and wildlife and allow for recreational activities in and on the water (33 U.S.C. §1315(b) et seq.) All assessments were prepared using existing and readily available water quality data and information in order to comply with rules and regulations under §303(d) of the Act (33 U.S.C. §1313 and 40 CFR Chapter 1 §130.7). In most cases, water quality assessments and possible §303(d) listing are based on specific water body subsegments as defined in Louisiana's Environmental Regulatory Code (ERC) 33:IX.1123, table 3 (ERC 2010). Additional data and information were solicited during a 30-day data request public notice period which ended 17 February 2010. As a result of the public request for data, additional water quality data was provided by Lake Pontchartrain Basin Foundation and the Lafayette Parish Bayou Vermilion District. Region 6 of the USEPA provided additional data for the Gulf of Mexico. Border state water quality data was provided by Texas Commission on Environmental Quality, Mississippi Department of Environmental Quality, and the Arkansas Department of Environmental Quality. The Louisiana Department of Health and Hospitals provided Enterococcus bacteria data collected as part of its Beach Monitoring Program. All data considered for assessment purposes was required to meet quality assurance/quality control (QA/QC) procedures comparable to LDEQ's Ambient Monitoring Quality Assurance Project Plan (LDEQ 2010). All of this additional data was considered in conjunction with ambient water quality data collected by LDEQ.

The 2010 IR contains new assessments for subsegments in all twelve Louisiana basins: Atchafalaya (01), Barataria (02), Calcasieu (03), Pontchartrain (04), Mermentau (05), Vermilion/Teche (06), Mississippi (07), Ouachita (08), Pearl (09), Red (10), Sabine (11), and Terrebonne (12). Louisiana's ambient water quality monitoring and assessment program follows a four-year rotating subsegment approach through which approximately ¼ of the state's subsegments are monitored during each one-year period of the rotation. Originally this four-year rotation was based

on calendar years, but beginning with the 2007 monitoring cycle (January 2007 – October 2007¹), LDEQ changed to a “water-year” rotation of 1 October – 31 September. This change permits a full twelve months of water quality data to be collected and placed in a database in sufficient time to generate the Integrated Report by April 1st of even-numbered years.

LDEQ’s four-year rotation monitoring program has a number of benefits over Louisiana’s previous monitoring programs:

1. Water quality data from the same number of water bodies is now collected over a shorter period of time, thus improving LDEQ’s ability to identify and target newly developing problems in a timely manner.
2. Samples are now collected statewide instead of in two or three basins per year, enabling LDEQ to monitor water quality issues on a broader regional scale.
3. Regional staff responsible for collection of samples remain skilled and up-to-date on the latest sampling procedures.
4. Regional staffs are able to balance their workloads more evenly instead of having two or three years in which they do little or no ambient water quality sampling and one year of intense field sampling at the expense of all other work.

Table 1

Monitoring and assessment schedule for Louisiana’s four-year rotating monitoring plan as used for the 2010 Integrated Report.

Ambient Monitoring Cycle	Month/Year of Sampling	Type of Rotation Cycle
1	January 2006 – December 2006	Calendar Year
2	January 2007 – October 2007 ¹	Compressed Year
3	October 2007 – September 2008	Water-Year ²
4	October 2008 – September 2009	Water-Year ²

1. A limited number of sites for the 2nd ambient monitoring cycle were sampled in October. Most of the sampling ended in September.
2. “Water-Year” refers to a sampling period of October 1 through September 30.

2010 Water Quality Assessment Procedures

General Assessment Procedures

Assessment procedures used for Louisiana’s 2010 IR have been developed and updated over a number of years with use in previous §303(d) lists and §305(b) reports. Procedures follow USEPA guidance documents for §305(b) reports and §303(d) lists (USEPA 2005; USEPA 2006); USEPA’s Consolidated Assessment and Listing Methodology (CALM) guidance (USEPA 2002); as well as Louisiana’s surface water quality standards found at ERC 33:IX.1101-1123. Assessment procedures remain essentially the same as those used for the 2008 IR. Additional details of Louisiana’s Integrated Report assessment process can be found in Louisiana’s *Standard Operating Procedures for Production of Water Quality Integrated Report. Revision 2*. (LDEQ 2007).

For the 2010 IR assessment, LDEQ field staff collected monthly field analysis and laboratory samples during the ambient monitoring rotations described above. Laboratory samples were sent to LDEQ’s water laboratory in Baton

¹ The 2007 monitoring cycle was compressed to January – October; however, 12 samples were still collected at each monitoring location during this cycle. While this compression did result in loss of data for November and December, adequate data was collected during the most critical season for dissolved oxygen assessments. Dissolved oxygen assessments are most sensitive to seasonal influences during hot summer months.

Rouge (conventional parameters), one of several Louisiana Department of Health and Hospitals (LDHH) laboratories (fecal coliform bacteria), or contract laboratories (conventionals, fecal coliform bacteria, metals). In order for water quality or other related data to be utilized for the Integrated Report, sample collection, handling, and laboratory analysis must be in accordance with LDEQ's Ambient Water Quality Monitoring Quality Assurance Project Plan developed by LDEQ and approved by USEPA Region 6 (LDEQ 2010). Data from the LDEQ laboratory as well as field data were entered into LIMS (Laboratory Information Management System) by laboratory staff. After electronic data deliverables from the laboratory were received by the Standards, Assessment and Nonpoint Source Section (SAN), these data were electronically entered into the Oracle-based Louisiana Environmental Assessment Utility (L'EAU) database. This database is maintained on a central LDEQ server by the Office of Environmental Assessment (OEA), Water Quality Assessment Division (WQAD), SAN section. Data from LDHH and the contract laboratories were also entered into L'EAU by SAN staff. Field parameters measured using water quality instrumentation were entered by hand from field data sheets completed by regional LDEQ personnel responsible for ambient water quality sampling. All LDEQ ambient water quality data used for this assessment can be obtained by following directions found on the LDEQ web site at: <http://www.deq.louisiana.gov/portal/Default.aspx?tabid=2421>. In addition to water quality data collected by LDEQ, additional data and information were solicited from the public and other state and federal agencies. This data is available upon request.

At the beginning of 2010 assessment cycle L'EAU and Statistical Analysis Software (SAS) programs were reviewed and updated as necessary to reflect changes in time frame, criteria, and assessment methods. A series of L'EAU data queries was run and the resulting data transferred to a series of SAS statistical programs. SAS programs are utilized to compare ambient numerical data to criteria for each water body subsegment and designated use. Louisiana water quality standards define eight designated uses for surface waters: primary contact recreation (PCR), secondary contact recreation (SCR), fish and wildlife propagation (FWP), drinking water supply (DWS), oyster propagation (OYS), agriculture (AGR), outstanding natural resource (ONR), and limited aquatic and wildlife use (LAW). Designated uses and criteria for each water body subsegment are listed in Louisiana's ERC 33:IX.1123. Designated uses have a specific suite of ambient water quality parameters used to assess their support. Links between designated uses and water quality parameters, as well as water quality assessment procedures, can be found in table 2. Data and information collected from within or immediately downstream of a water body subsegment were used to evaluate each of the subsegment's designated uses, using the decision process shown in table 2. Where more than one parameter and criterion define a designated use, support for each use was defined by the designated use's most severely impaired parameter. In rare cases where data from more than one sample station were available for the same subsegment, a case-specific determination was made as to how to use the data; however, in most cases assessments for the sample station with a use impairment were applied to the entire subsegment even if the second sample station did not indicate an impairment.

To illustrate this point, most water bodies have the designated use of FWP. Fish and wildlife propagation is assessed as noted in table 2, using criteria for the ambient sampling parameters dissolved oxygen, pH, temperature, chloride, sulfate, and TDS, as well as several metals and organic compounds. In the case of subsegment LA030104_00, Mill Creek, only the FWP criterion for dissolved oxygen was not met based on requirements of table 2. Therefore, only dissolved oxygen was reported as an impairment to FWP in the 2010 IR. Had turbidity or some other parameter also shown impairment, that impairment would have been listed as well.

Numerical data from LDEQ's ambient water quality monitoring network collected between 1 January 2006 and 30 September 2009 were compiled for each assessment. Under Louisiana's four-year rotating subsegment monitoring approach, this provided twelve monthly samples for most water body subsegments. Up to four years (48 samples) of data were available for those subsegments with long-term trend monitoring sites. Ambient data used for analysis depended on the designated use(s) for each water body and the availability of numerical water quality criteria. For most parameters and criteria, at least five samples were required for the assessment to be considered valid. Parameters collected quarterly (metals and organics) required a minimum of three samples. For metals assessments, a *preliminary* determination of impairment based on routine ambient sampling was made. This was then followed up with an additional round of five "ultra-clean" metals samples, using special sample collection and laboratory analysis methods to determine *final* impairment for IR purposes. These special methods are designed to significantly reduce the possibility of sample contamination during collection and laboratory analysis.

Table 2

**Decision process for evaluating use support, showing measured parameters for each designated use;
Louisiana's 2010 Integrated Report¹**

Designated Use	Measured Parameter	Support Classification for Measured Parameter		
		Fully Supporting	Partially Supporting ³	Not Supporting
Primary Contact Recreation (PCR) (Designated swimming months of May-October, only)	Fecal coliform ²	0-25% do not meet criteria	-	>25% do not meet criteria
	Temperature	0-30% do not meet criteria	>30-75% do not meet criteria	>75% do not meet criteria
	Toxics	<2 exceedances of chronic or acute criteria in most recent consecutive 3-year period, or 1-year period for newly tested waters	-	≥2 exceedances of chronic or acute criteria in most recent consecutive 3-year period, or 1-year period for newly tested waters
Secondary Contact Recreation (SCR) (All months)	Fecal coliform ²	0-25% do not meet criteria	-	>25 % do not meet criteria
	Toxics	<2 exceedances of chronic or acute criteria in most recent consecutive 3-year period, or 1-year period for newly tested waters	-	≥2 exceedances of chronic or acute criteria in most recent consecutive 3-year period, or 1-year period for newly tested waters

Table 2

**Decision process for evaluating use support, showing measured parameters for each designated use;
Louisiana's 2010 Integrated Report¹**

Designated Use	Measured Parameter	Support Classification for Measured Parameter		
		Fully Supporting	Partially Supporting ³	Not Supporting
Fish and Wildlife Propagation (FWP)	Dissolved oxygen (routine ambient monitoring data) ⁴	0-10% do not meet criteria	>10-25% do not meet criteria	>25% do not meet criteria
	Dissolved oxygen (follow-up continuous monitoring data) ⁴	Footnote 4.	Footnote 4.	Footnote 4.
	Temperature, pH, chloride, sulfate, TDS, turbidity	0-30% do not meet criteria	>30-75% do not meet criteria	>75% do not meet criteria
	Metals ^{5,6} and Toxics	<2 exceedances of chronic or acute criteria in most recent consecutive 3-year period, ^{5,6} or 1-year period for newly tested waters	-	≥2 exceedances of chronic or acute criteria in most recent consecutive 3-year period, ^{5,6} or 1-year period for newly tested waters

Table 2

**Decision process for evaluating use support, showing measured parameters for each designated use;
Louisiana's 2010 Integrated Report¹**

Designated Use	Measured Parameter	Support Classification for Measured Parameter		
		Fully Supporting	Partially Supporting ³	Not Supporting
Drinking Water Source (DWS)	Color	0-30% do not meet criteria	>30-75% do not meet criteria	>75% do not meet criteria
	Fecal coliform ²	0-30% do not meet criteria	-	>30 % do not meet criteria
	Metals ^{5,6} and Toxics	< 2 exceedances of drinking water criteria in most recent consecutive 3-year period, ^{5,6} or 1-year period for newly tested waters	-	≥2 exceedances of drinking water criteria in the most recent consecutive 3-year period, ^{5,6} or 1-year period for newly tested waters
Outstanding Natural Resource (ONR)	Turbidity	0-10% do not meet criteria	>10-25% do not meet criteria	>25% do not meet criteria
Agriculture (AGR)	None	-	-	-
Oyster Propagation (OYS)	Fecal coliform ²	Median fecal coliform ≤ 14 MPN/100 mL; and ≤ 10% of samples > 43 MPN/100 mL	-	Median fecal coliform > 14 MPN/100 mL; and > 10% of samples > 43 MPN/100 mL
Limited Aquatic and Wildlife (LAW)	Dissolved oxygen ⁴	0-10% do not meet criteria	>10-25% do not meet criteria	>25% do not meet criteria

Table 2

**Decision process for evaluating use support, showing measured parameters for each designated use;
Louisiana's 2010 Integrated Report¹**

Designated Use	Measured Parameter	Support Classification for Measured Parameter		
		Fully Supporting	Partially Supporting ³	Not Supporting
<div>1. Where deviations from the decision process described in table 2 occur, detailed information will be given to account for and justify those deviations. For instance, circumstances that may not be accounted for in the plain electronic analysis of the data will be explored and may be used to either not list the water body or to put the WIC (Water body impairment combination) into a different category. Those circumstances will be fully articulated.</div> <div>2. For most water bodies, criteria are as follows: PCR, 400 colonies/100 mL; SCR, 2,000 colonies/100 mL; DWS, 2,000 colonies/100 mL; SFP, 43 colonies/100 mL (see ERC 33:IX.1123).</div> <div>3. While the assessment category of “Partially Supporting” is included in the SAS statistical assessment programming, any use support failures were recorded in ADB as “Not Supporting.” This procedure was first adopted for the 2002 §305(b) cycle because “partially supported” uses receive the same TMDL treatment as “not supported” uses.</div> <div>4. In the event that analysis of routine ambient monitoring data for dissolved oxygen results in partial- or non-support, continuous monitoring (CM) data, where available, was used for follow-up assessment. CM data runs were approximately 48-72 hours in duration. CM data was evaluated as follows: All of the 15-minute interval dissolved oxygen observations from a CM sample run were analyzed to determine if more than 10% of the data points were below minimum criteria. Water bodies that fell below the criteria greater than 10% of the time were reported as IRC 5 (see table 3) and, therefore, are on the §303(d) list. Water bodies that fell below the criteria less than or equal to 10% of the time were placed in IRC 1, fully supported. If ambient monitoring indicated impairment and CM data was not available for analysis, the water body was placed in IRC 5 until such time as CM data can be collected during the critical season of May 1 through October 31.</div> <div>5. Determination of the application of marine or freshwater metals criteria was made based on ERC 33:IX.1113.A.C.6.d.</div> <div>6. Parameters collected quarterly (metals and organics) required a minimum of three samples. For metals assessments only a <i>preliminary</i> determination of impairment based on routine ambient sampling is made. This is then followed up with an additional round of five “ultra-clean” metals samples using special sample collection and laboratory analysis methods to determine <i>final</i> impairment for IR purposes. These special methods are designed to significantly reduce the possibility of sample contamination during collection and laboratory analysis. As with ambient sampling if two or more of the “ultra-clean” samples exceeded criteria, then the subsegment was considered a <i>final</i> impairment for Integrated Report purposes.</div>				

Following statistical determination of a water body's designated use support and what chemical parameter(s) in that water body may be impaired, a preliminary determination was made as to which Integrated Report Category (IRC) the suspected water body impairment combination (WIC) should be placed in. In most cases this was IRC 5 (the 303(d) list). A WIC is simply one impairment affecting one water body subsegment. Water bodies may have multiple WICs affecting one or more designated uses. USEPA guidance permits the placement of suspected WICs into one of eight IR categories. Integrated Report Categories, to which these WICs may be assigned, are described in table 3.

Table 3

Environmental Protection Agency Integrated Report categories used to categorize water body/pollutant combinations for Louisiana's 2010 Integrated Report

IR Category (IRC)	IR Category Description
IRC 1	Specific Water body Impairment Combination (WIC) cited on a <i>previous</i> §303(d) list is now attaining all uses and standards.
IRC 2	Water body is meeting <i>some</i> uses and standards but there is insufficient data to determine if uses and standards <i>associated with the specific WIC</i> cited are being attained.
IRC 3	There is insufficient data to determine if uses and standards <i>associated with the specific WIC</i> cited are being attained.
IRC 4a	WIC exists but a TMDL has been completed for the <i>specific WIC</i> cited.
IRC 4b	WIC exists but control measures other than a TMDL are expected to result in attainment of designated uses <i>associated with the specific WIC</i> cited.
IRC 4c	WIC exists but a pollutant (man-altered or man-induced impairment) does not cause the <i>specific WIC</i> cited.
IRC 5	WIC exists for one or more uses, and a TMDL is required for the <i>specific WIC</i> cited. IRC 5 represents Louisiana's §303(d) list.
IRC 5RC (Revise Criteria)	WIC exists for one or more uses, and a TMDL is required for the specific WIC cited; however, LDEQ will investigate revising criteria due to the possibility that natural conditions may be the source of the water quality criteria impairments.

Determination of TMDL Prioritization

As part of §303(d) listing requirements states are required to prioritize all water bodies classified as IRC 5 or IRC 5RC. For the 2010 IR, prioritization was based on the following matrix:

Atchafalaya Basin (01): All impairments still subject to the Consent Decree schedule. TMDL due date is 2009, priority is High. (USEPA "backstop" due date allows for extended period.)

Pontchartrain Basin (04): All impairments still subject to the Consent Decree schedule. TMDL due date is 2012, priority is High. (Due date was extended from 2011 to 2012 by agreement with USEPA, Region 6.)

Pontchartrain Basin (04): Dissolved oxygen impairment for New River (LA040404_00). TMDL due date is TBD (To Be Determined), priority is Medium. Impairment is not on the Consent Decree, but survey and TMDL work are in progress, hence the higher priority.

Calcasieu Basin (03) and Vermilion/Teche Basin (06): All impairments first identified after the Consent Decree was put in place. TMDL due date is TBD, priority is Medium. (Medium priority based on expected permit needs in near future.)

Impairments first identified after the Consent Decree was put in place. TMDL due date is TBD, priority is Low.

Impairments first identified after the Consent Decree but classified as IRC 5RC. TMDL due date is set at 13 years from first listing (2021 for 2008 IR and 2023 for 2010 IR). Priority is Low.

Enterococcus impairments based on Louisiana Department of Health and Hospitals' Beach Monitoring Program. TMDL due date is TBD, priority is Low. Low priority is based on uncertainty over efficacy of the indicator species for this LDHH program, and the lack of Louisiana criteria for *Enterococcus*.

Determination of Suspected Sources of Impairment

In addition to the use of numerical data, LDEQ regional staff members were asked for input regarding significant suspected sources of impairment or whether impairment was due solely to natural sources. It was anticipated that numerical data alone might suggest impairment for some Louisiana water bodies when in fact there was no impairment, or the impairment was due exclusively to natural causes. Regional staff familiar with the water body area are best capable of suggesting one or more suspected sources for a water body's impairment. Using the best professional judgment of regional staff provides valuable input regarding the quality of individual water bodies. If an impairment was strongly suspected by regional staff to have been caused by natural conditions (not man-altered or man-induced) then the preliminary IRC was changed from 5 to 5RC. In such cases a Use Attainability Analysis (UAA) or other water quality survey may be required. This will be determined upon further investigation by LDEQ. In cases where there is uncertainty as to the suspected cause but no anthropogenic sources are strongly suspected, then IRC 3 was used. IRC 3 was also used for cases where nitrate/nitrite nitrogen and/or total phosphorus were reported as a suspected cause of impairment. This was due to the fact the Louisiana does not currently have nutrient criteria; therefore, it is impossible to know if nutrients are in fact causing impairment. These listings for nitrate/nitrite nitrogen and total phosphorus are a legacy of what were known as "evaluative assessments." Evaluative assessments were best professional judgments by regional staff made without the benefit of nutrient criteria with which to make that judgment. This assessment practice was discontinued after the 1998 305(b) report. Use of both IRC 5RC and IRC 3 allows for additional investigation into the possible sources of impairment as well as a determination of the need for a UAA.

Data Management of Assessment Results

All resulting assessment information, including water body name, size, type, designated uses, use support, suspected causes, and suspected sources of impairment, was entered into a database developed for the USEPA by RTI. (Formerly known as Research Triangle Institute, RTI is a USEPA contractor for computer technology.) States are encouraged by USEPA to use this Assessment Database (ADB) in order to provide more consistent reporting at a national level. LDEQ has been using ADB since 2002. For 2010, the IRC for each WIC was included in the "User Defined Category" field of the "Cause" data entry screen. Additional information regarding each water body, including TMDL due date, TMDL status, monitoring information, and federal Hydrologic Unit Code (HUC), was also input to ADB in order to facilitate easier monitoring, assessment, and TMDL tracking. Because use of the ADB system is limited to state and federal computers on which the program has been downloaded, LDEQ generates an Excel spreadsheet for public presentation of all assessment results for the state. It is this spreadsheet, in Excel or PDF form, which represents LDEQ's 2010 Integrated Report assessments.

2010 §303(d) List Development and Other IR Categorizations

The 2010 §303(d) list represents a compilation of four different sources of information:

1. The 2008 Integrated Report
2. New data assessments for all twelve Louisiana basins assessed in 2010
3. All recent TMDL activities occurring during or after development of the 2008 §303(d) list
4. All water bodies under new or existing fish consumption or swimming advisories

In addition to drawing from these various sources and assigning IRCs to the suspected causes of impairment, USEPA's current guidance on IR development was used to determine what water bodies were formally included on Louisiana's 2010 303(d) list (IRC 5 and 5RC). Using USEPA's IR guidance, all suspected WICs identified in the 2010 IR were assigned to one of eight categories (table 3).

It is important to note that removal of a water body from the §303(d) list, for any reason, does not remove water quality protections from that water body. All water bodies in Louisiana, listed or not listed, are subject to the same protections under the CWA and Louisiana's Environmental Quality Act (LEQA) (LEQA, 1995). Permitted facilities are still subject to conditions of their permits. Unpermitted point source dischargers are still required to obtain a permit or face enforcement actions. Violators of permit conditions are still subject to enforcement action. And

contributors to nonpoint sources of pollution are still encouraged to follow best management practices as developed by LDEQ's Nonpoint Source Program and its many collaborators. Dischargers to water bodies removed from the §303(d) list because TMDLs have been developed are still required to meet permit limits based on the TMDL that was developed for that water body.

USEPA's IR guidance was used to categorize specific suspected WICs in order to narrow the focus on which impairments require development of a TMDL for each assessed water body subsegment. If necessary, suspected WICs placed in IRC 3, 4b, and 5RC will be addressed with additional monitoring to determine if use impairment is occurring, or if the suspected impairment can be addressed by corrective actions other than development of a TMDL. In some cases, usually for small water bodies with fish consumption or swimming advisories lying within a larger regulatory subsegment, the smaller "advisory" water body was also named in the 2010 IR. Impairments of this nature are water body-specific issues not directly related to the overall subsegment. These smaller water bodies are not named as a regulatory subsegment and, therefore, were not assessed for any uses other than the specific advisory in question. Nor were these advisory water bodies included in summary tables and charts for the Integrated Report. They were, however, included in the full IR assessment spreadsheet generated from the ADB. This limitation was done in order to standardize the IR summary tables for only those subsegments defined in Louisiana's Environmental Regulatory Code (ERC 33:IX.1123. Table 3).

Use of IRC 1-4c by Louisiana was not meant to imply that a water body subsegment placed in these categories for specific WICs was explicitly excluded from IRC 5 or 5RC (the 303(d) list) for other WIC(s). To the contrary, a water body with one or more specific WICs assigned to an IRC of 1-4c was included in IRC 5 as well, *provided* one or more WICs for that water body were placed in IRC 5 or 5RC. Therefore, according to USEPA IR guidance, water bodies with one or more WICs assigned to IRC 5 or 5RC are explicitly on the §303(d) list. However, these water bodies are only on the §303(d) list for those WICs specifically assigned by Louisiana to IRC 5 or 5RC. IR Categories 1-4c were also used by Louisiana in its Integrated Report as a means to classify and account for WICs found on USEPA's Consent Decree §303(d) list. These categories were also used to account for newly identified impairments that were not assigned to IRCs 5 or 5RC, caused by natural sources, or for which control activities other than TMDLs are in place.

Conclusion

Due to the extensive nature of the documentation used to assess water quality in Louisiana, it was impossible to include all the data or information used in preparation of this 2010 IR Rationale. Anyone interested in viewing this documentation, or anyone with questions regarding the 2010 Integrated Report is asked to contact Mr. Albert E. Hindrichs at:

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